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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/645,225	08/24/2000	Peter W. Brown	32575	3218

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EXAMINER

ROY, SIKHA

ART UNIT PAPER NUMBER

2879

DATE MAILED: 11/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/645,225

Applicant(s)

BROWN ET AL.

Examiner

Sikha Roy

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-16, 19 and 20 is/are allowed.
- 6) ☒ Claim(s) 1-11, 17, 18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

The Amendment, filed on August 28, 2002 has been entered and is acknowledged by the Examiner.

New claims 17-20 have been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11 and 17,18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent 5,138,219 to Krisl et al.

Referring to claim 1 Krisl et al. disclose interference coating of alternating layers of two different materials having high and low indices of refraction. Krisl et al. disclose (column 5 lines 60-67 column 6 lines 54-69, Figs. 1 and 2) 51 layers in the optical interference filter having three stack design, each stack forming repeating periods with a number of layers having alternate high (H) and low (L) refractive index materials. It would have been obvious to one of ordinary skill in the art at the time of invention to add one more layer and thus having total number of layers greater than 51.

Regarding claims 2 Krisl et al. disclose (column 1 lines 52-60) the optical interference coating made up of alternating layers of tantalum pentoxide with high refractive index and silica with low refractive index.

Regarding claims 7 and 8 Krisl et al. disclose total 61 layers in the optical interference coating.

Regarding claim 3, Krisl et al. disclose values of thicknesses of the layers of high and low refractive index materials in Table 1 from which the ratio of the total thickness of all the layers of high index of refraction material to the total thickness of all the layers of low index of refraction material can be calculated. It is noted that the desired reflection is accomplished by selecting layer thicknesses. As claim 3 (or 4,5,6) does not recite any particular design of the coating it would have been obvious to one of ordinary skill in the art at the time of invention to modify the values of a' , b' , c' or a , b , c and thus change the thickness of a layer in the coating of Krisl et al. because changes in design are considered to be within the skill of the art and find the desired ratio of the thicknesses. With $a' = 4$ the ratio of the thicknesses of high and low refractive index layers in the third stack of the optical interference coating is 0.94. Krisl et al. further disclose (column 7 lines 51-56) that the design and the thickness of the layers can be refined by computer optimization and hence different values of ratio can be obtained.

Claims 4,5,6 essentially recite the same limitation as of claim 3 with different values of ratio of the total thickness of all the layers of high index of refraction material to the total thickness of all the layers of low index of refraction material, which can be determined by changing the design of the coating from Krisl et al. and hence are rejected.

Regarding claim 9, Krisl et al. disclose the claimed invention except for the limitation of total number of layers greater than 70. It has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. It would have been obvious to one having ordinary skill in the art at the time the invention was made to add more number of layers, since mere duplication of essential parts of the invention is considered within the skill of the art. *In re Harza*, 274 F. 2d 669,124 USPQ 378 (CCPA 1960).

Regarding claims 10,11 Krisl et al. discloses the claimed invention except for the limitation of total number of layers being 78 and less than 200. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the total number of layers equal to 78 and less than 200, since optimization of workable ranges is considered within the skill of the art.

Claim 17 essentially recites the limitations of claims 3 and 10 and hence is rejected for the same reason (see rejection of claims 3 and 10).

Claim 18 essentially recites the limitations of claims 3 and 7 and hence is rejected for the same reason (see rejection of claims 3 and 7).

Allowable Subject Matter

Claims 12-16 and 19,20 are allowed over the prior art of record.

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The following is an examiner's statement of reasons for allowance:

Regarding claim 12, the references of the Prior Art of record fails to teach or suggest an electric lamp with the combination of the limitations as set forth in claim 12, and specifically comprising the limitation comprising the total number of layers comprising material of alternating high and low refractive indices greater than 51 and each layer being separate and distinct layer from the adjacent layer.

Claims 13-16 and 19, 20, are allowable for the reasons given in claim 12 because of their dependency status from claim 12.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (703) 308-2826. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (703) 305-4794. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

S.R.

Sikha Roy
Patent Examiner
Art Unit 2879



Nimeshkumar D. Patel
Primary Examiner